

Application No. 10/028,839
Paper Dated: March 26, 2004
In Reply to USPTO Correspondence of January 5, 2004
PPG Case No. 1716A1

REMARKS

Examiner Woodward is thanked for the courtesy extended to Applicants representative in the telephone conversation conducted on March 31, 2004 in which a Proposed Amendment was discussed.

Claims Status

Claims 1-54 are pending in the application. Claims 22-54 were withdrawn from consideration by the Examiner in view of an earlier Restriction Requirement. This Amendment cancels claims 8, 14, 15, and 19, and amends claims 1, 11, and 16 in accordance with the original disclosure. Therefore, claims 1-21 remain pending in this application. Support for the claim amendments is found, for example, in cancelled claim 8 and in the specification at page 9, line 28 to page 10, line 7.

Restriction/Election

The Examiner has made final a restriction under 35 U.S.C. § 121 to one of the following inventions: Group I, covering claims 1-21, drawn to a reaction product; Group II, covering claims 22-35, drawn to a coating composition; and Group III, covering claims 36-54, drawn to a composite coating. Applicants hereby affirm the election to prosecute the invention of Group I, claims 1-21. Claims 22-54 were withdrawn from consideration.

Claim Rejections Under 35 U.S.C. §§ 102/103

Claims 1-21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 4,585,566 to Wollenberg (hereinafter "the Wollenberg patent"). Claims 8, 14, 15, and 19 have been canceled. Independent claims 1, 11 and 16 have been amended to delete polyoxyalkylene monoamine and to include the structures of the polyoxyalkylene triamine recited in cancelled claim 8. The present invention as now claimed includes the reaction product prepared from a polyoxyalkylene amine having a structure wherein the polyoxyalkylene amines

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comprise only primary amines and the amine nitrogens on the structure (i.e., structures (I), (II), and (III)) are separated by ether-containing moieties. In view of the above amendments and the following remarks, Applicants respectfully request withdrawal of the rejections.

The Wollenberg patent discloses a nitrogen-containing lubricating oil dispersant prepared by the reaction of a nitrogen-containing dispersant having at least one primary or secondary amino group with a cyclic carbonate (column 1, lines 55-58). Column 5, line 27 to column 7, line 65 of the Wollenberg patent shows the reaction scheme for the preparation of the polyoxyalkylene polyamine used to prepare the lubricating oil dispersant. The polyoxyalkylene polyamine consists of three parts or moieties (i.e., a polyoxyalkylene moiety, a connecting group, and an amine). See column 5, lines 28-34 of the Wollenberg patent. The connecting group joins the polyoxyalkylene moiety with the amine moiety (column 6, lines 19-20). Specifically, the Wollenberg patent shows the polyoxyalkylene polyamine structure (column 5, lines 44-51) having the amine moiety at one end of the structure while the polyoxyalkylene moiety is at the other end of the structure separated by the connecting group. The Wollenberg patent does not teach or suggest the use of a polyamine wherein primary amine nitrogens are separated by ether-containing moieties. Also, when the polyoxyalkylene amine in the Wollenberg patent is a polyamine, the polyamine comprises both secondary and primary amino groups. In the claimed invention, the polyoxyalkylene polyamines comprise only primary amines. Because of the structural differences between the Wollenberg patent and the claimed invention, amended independent claims 1, 11, and 16 and dependent claims 2-7, 9, 10, 12, 13, 17, 18, 20, and 21 clearly are not anticipated by the Wollenberg patent. Reconsideration and withdrawal of the rejection of claims 1-7, 9-13, 16-18, and 20-21 under 35 U.S.C. § 102(b) are respectfully requested.

Regarding the obviousness rejection of the claims, the Wollenberg patent does not teach or suggest the polyether carbamate group-containing reaction product of the present invention. In fact, the Wollenberg patent would seem to teach away from polyether carbamate group-containing reaction products having the

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structures I, II and III as recited in Applicant's claims as amended. At column 5, lines 28-34, the Wollenberg patent states that the polyoxyalkylene polyamine additives [used to form the dispersant] consists of three parts or moieties. The first moiety is the polyether or polyoxyalkylene moiety. The polyether moiety is bound through the second moiety, a connecting group or linkage to the nitrogen atom of the third moiety, the amine. This would indicate that the polyoxyalkylene amine used in forming the dispersants of the Wollenberg patent has the amino groups on one end of the molecule, with the polyoxyalkylene moiety on the other end of the molecule. This is exemplified by the generalized structure at column 7, lines 44-65 of Wollenberg. The Wollenberg patent is quite specific as to the structure of the polyoxyalkylene amine which is reacted with a cyclic carbonate to form the dispersant disclosed/claimed herein. As discussed above, these structures are significantly different from those of the polyoxyalkylenepolyamines of the instant claims. Also, when the amine used in Wollenberg is a polyamine, it contains both primary and secondary amines. (Please see the Wollenberg patent at column 8, line 1 to column 10, line 60 regarding reaction schemes.) The polyoxyalkylene polyamines of Applicant's claims comprise only primary amine groups. As Wollenberg specifically and explicitly teaches only polyoxyalkylene amines consisting of the three-moiety structure described above, reacted with cyclic carbonates to produce an improved dispersant wherein the improvement is alleged to be due to the resulting dispersant structure, one skilled in the art would not be motivated to modify the three-moiety structure to achieve the reaction product of Applicant's claims. In view of the above reconsideration and withdrawal of the rejection of claims 1-7, 9-13, 16-18, and 20-21 under 35 U.S.C. § 103(s) are respectfully requested.

During a telephone conversation with the Examiner by Applicants' representative on February 16, 2004, it was brought to the Examiner's attention that the references considered in the current Office Action did not include the prior art references cited in the corresponding International Application that were submitted in a Supplemental Information Disclosure Statement dated July 14, 2003. Applicants assert that none of the prior art references cited therein, namely, U.S. Patent Nos.

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4,704,466; 4,883,854; and 4,122,069, teaches or suggests the polyether carbamate group containing reaction product of the present invention or the new and unexpected results associated with the use of this reaction product.

In view of the foregoing, Applicants believe that the instant claims, as amended, are patentable over the prior art of record and the instant application is now in condition for allowance. If the Examiner believes that there are any issues remaining, she is invited to telephone the undersigned in order to resolve such matters.

Respectfully submitted,

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